DAMES & MOORE

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LETTER REPORT
SOIL INVESTIGATION
DVORAK LIVING TRUST PROPERTY
NORTH WENATCHEE AVENUE
WENATCHEE, WASHINGTON

for

Dvorak Living Trust
D&M Project No. 30603-002-113
September 22, 2000

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

1101 N. Argonne Road, Suite 201
Spokane, Washington 99212
509 928 4413 Tel
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September 22, 2000

Ms. Janet L. Tenold, Trustee
Dvorak Living Trust
1404 East 58th Avenue
Spokane, Washington 99223

RE: Letter Report
Soil Investigation
Dvorak Living Trust Property
1436 and 1444 North Wenatchee Avenue
Wenatchee, Washington
Dames & Moore Job No.: 30603-002-113

Dear Ms. Tenold:

Dames & Moore is pleased to present this letter report to Dvorak Living Trust (Dvorak) for the excavation oversight and petroleum-contaminated soil sampling at the above-referenced site. This report presents our activities, findings, conclusions, and recommendations. This work was performed in accordance with the scope of services outlined in our March 17, 2000 proposal.

INTRODUCTION

The Dvorak site is located in the ¼ SE of the ¼ NE of Section 33, Township 23 North, Range 20 East, in Wenatchee, Chelan County, Washington (Figure 1). The street address for the subject property is 1436 and 1444 North Wenatchee Avenue, Wenatchee, Washington. The subject property is comprised of an approximately eight-acre parcel of land. The buildings on the property were reportedly constructed in 1965 and 1969.

This report documents the removal of residual petroleum-contaminated soil at southeastern portion of the subject property, near the former bulk fuel building. The purpose of this work was to facilitate the redevelopment of the property.

BACKGROUND

Since the 1950s, the subject property has been used as a bulk fuel distribution facility, truck repair shop, service station, grocery store, mobile home sales, and maintenance facility. The 1995 Dames & Moore Phase I Environmental Site Assessment (ESA) for the subject property identified several areas of potential environmental concern associated with past and current onsite work practices.

The areas of concern were the following:

- An area of stained soil on the east portion of the property adjacent to the Midas Muffler property;
- The former location of aboveground storage tanks (ASTs) that were part of the bulk fuel dispensing facility;
- The former location of a heating oil underground storage tank (UST) and a waste oil AST located northwest of the Rothe/former Diesel Repair building; and,
- A trench drain that originates from the interior of the Rothe/former Diesel Repair building and may be connected to an on-site septic system.

Under the supervision of Dames & Moore, approximately 640 tons of petroleum-contaminated soil were excavated and disposed at the Taneum Recovery Corporation in Ellensburg, Washington in 1995. Confirmation samples were collected from the base of these excavations and were analyzed for the constituents of concern at each area. The analytical results chosen for the analytical samples were based on the type of contamination expected at the sampling locations. Confirmation samples were sampled for at least one of the following constituents: diesel- and heavy oil range hydrocarbons, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs) and RCRA metals.

Analytical results indicated that contaminated soil exceeding Washington Department of Ecology (Ecology) Model Toxics Control Act (MCTA) Method A Cleanup Action Levels have been removed from the subject property, except for a small area of contaminated soil located in the excavation in the bulk fuel dispensing facility located in the southeastern portion of the site. Excavation of that area of contaminated soil was not possible due to the presence of the overlying storage building. The original excavation of contaminated soils in this area extended to approximately two feet of the foundation of the building.

PURPOSE AND SCOPE OF WORK

The purpose of this work was to remove the residual soil contamination under the demolished storage building that was previously inaccessible and to provide sampling data to confirm that the contamination was removed. As outlined in our proposal dated March 17, 2000 the scope of services for the project was to:

- Review and update the existing Health and Safety Plan (HSP) for this project. The HSP outlines the necessary protocol to protect Dames & Moore personnel from hazards and potential exposure to hazardous materials associated with site investigation activities.

- Subcontract and coordinate an excavation and transport service provider for this project. The excavation and transport service will arrange for proper disposal of the excavated material at a Washington state-approved landfill.

- Provide field oversight for the excavation activities and collect confirmation samples at the area of concern.

- Analyze confirmation samples for diesel using EPA Method 8015 modified.

- Prepare a letter report describing our field methods and observations with the certified analytical reports and disposal permits and manifests attached.

- Provide Ecology with a copy of the report. Dames & Moore will interact with Ecology in order to obtain a No Further Action (NFA) designation for the site through the Independent Cleanup Action Program (ICAP) based on the results of this work

ENVIRONMENTAL SETTING

Environmental characteristics of the site, including topography, geology, and hydrogeology, were evaluated based on onsite observations, published literature, and maps.

Topography

The subject property is geographically located in the ¼ SE of the ¼ NE of Section 33, Township 23 North, Range 20 East, in Wenatchee, Chelan County, Washington (Figure 1). Topographic map coverage of the site is provided by the United States Geologic Survey (USGS) Wenatchee, Washington, 7.5-minute quadrangle, dated 1986. The elevation of the site is approximately 760 feet above mean sea level with less than 20 feet of topographic relief across the property.

The nearest body of water is the Columbia River, located approximately ½-mile east of the property. Regionally, the land surface slopes in the northeast direction, towards the Columbia River. The normal pool elevation of the Columbia River in the site vicinity is reported to be approximately 600 feet above sea level.

Soils

Soils in the site vicinity are mapped as Cashmont Sandy Loam. The Cashmont series soils are typically well-drained, moderately coarse textured soils that formed in alluvial and colluvial material of granite, gneiss, schist, and basalt origin. These soils form on terraces, alluvial fans, and foot slopes. Runoff is slow, and the hazard of water erosion is slight. The available moisture capacity is 6 to 7 inches (U.S. Department of Agriculture, Soil Conservation Services).

Geologic Setting

Geologically, the subject property site is situated on Holocene age alluvial fan deposits. These deposits consist of poorly sorted boulder gravel to gravelly sands and subangular gravel clasts. Underlying these deposits is the Chumstick Formation, consisting mostly of white micaceous arkosic sandstone with varying but lesser amounts of shale, conglomerate, fanglomerate, and rare siliceous tuff. The Chumstick Formation reportedly outcrops approximately one-mile southeast of the subject property.

Hydrogeologic Setting

The location, extent, and gradient of groundwater at the subject property cannot be determined without site-specific subsurface investigation Based on the topographic relief of the area, groundwater at the site is expected to flow east-northeast, towards the Columbia River. The Department of Ecology was contacted to obtain well logs in the vicinity of the subject property. The well logs of two wells installed at 531 South Miller Street and one well installed at 100 South Chelan Street, were the only logs found for this area. The Miller Street wells are located approximately ½-mile west-southwest of the subject property. The ground surface elevation at the Miller Street wells property is approximately 800 feet above sea level, depth to water during installation was reported at 33.25 feet below ground surface. The Chelan Street well is located approximately ½-mile north of the subject property; ground surface elevation at the well is approximately 700 feet above sea level. The total depth of the Chelan Street well is reported as 93 feet and groundwater was reportedly not encountered during drilling activities.

FIELD ACTIVITIES

Dames & Moore personnel conducted the soil investigation on March 29, 2000. A Dames & Moore environmental scientist monitored the excavation activities and collected confirmation soil samples from the excavation. Rob's Demolition of Spokane, Washington, performed the excavation of the contaminated soil at the site.

Sampling was performed in accordance with the Dames & Moore established protocols for environmental sample collection. Suitable personal protective equipment and a fresh pair of disposable gloves were used for the collection of each sample. Sampling equipment was decontaminated prior to sampling and after each sample was collected. The decontamination procedure involves washing equipment with an Alconox™/water solution, rinsing with fresh water, followed by rinsing with de-ionized water. These procedures are utilized to prevent cross contamination of samples and to protect personnel during sample collection activities.

Soil samples to be retained for laboratory analysis were placed in laboratory-provided glass sample jars that were securely sealed with plastic lids. Sample labels were fixed to the sample jars and contained the following information: sample number, owner name, date, time of collection, and requested laboratory analyses. Sealed samples were stored in a chilled cooler and were maintained in cooled condition until delivery to the analytical laboratory. Completed chain-of-custody records accompanied the samples to the laboratory and are included with the laboratory reports in Appendix A.

Anatek Labs in Spokane, Washington, was selected by Dames & Moore to analyze the samples. Anatek Labs is fully accredited under Ecology guidelines for analytical laboratories in Washington State. Confirmation samples were analyzed for diesel-range total petroleum hydrocarbons (TPH) by EPA Method 8015 modified. The analytical method was chosen based on the type of contamination expected at the collection locations.

Excavation Activities

The soil excavation was conducted on March 29, 2000. At the time of the investigation, the storage building had been removed. Only the cinderblock foundation under the southeast corner of the building remained. Dames & Moore monitored the excavation of this foundation area and collected confirmation soil samples from the floor and sidewalls of the excavation.

The dimensions of the excavation were approximately 12 feet by 14 feet by 4 feet deep. Contamination was evident approximately 2 feet below surface level in a lens approximately 6 to 8 inches wide. The east side of the excavation extended to a chain link fence that designated the property line. Beyond this fence was relatively new asphalt that was poured after the initial onsite cleanup. Soil contamination beyond this fence line was considered inaccessible.

A total of approximately fifteen yards of soil were removed from the excavation. This material was stockpiled on 4-mil plastic sheeting during the excavation activities. At the conclusion of these activities, the stockpiled soil was loaded and hauled by Rob's Demolition to Waste Management Wenatchee's Landfill of Wenatchee, Washington for disposal.

Confirmation samples (002 through 005) were collected from the south, east and west sidewalls and from the center of the excavation floor. Additionally, one confirmation sample (001) was collected from the stockpiled material. Sampling locations are shown in Figure 2.

The excavation was not backfilled at this time. Following the completion of field activities, Dames & Moore delivered the soil samples to the laboratory for analysis.

Analytical Results

A summary table of the results is presented below and copies of the certified analytical report are presented in Appendix A. Figure 2 depicts the sampling locations.

Table 1 – Analytical Results, March 29, 2000 Sampling

Sample No.	Sampling Location	Diesel Concentration (ppm)
001	Stockpile	63.0
002	Center of the excavation floor	ND
003	South wall	89.0
004	North wall	196
005	East wall	1980

ppm – parts per million
ND – not detected at or below laboratory reporting limits1.

Analysis did not report concentrations of diesel-range TPH at or above method reporting limits in sample 002. Diesel-range TPH concentrations of 89.0, 196 and 1980 ppm were detected in sample 003, 004, and 005, respectively. Sample 005 contained diesel-range TPH greater than the Ecology MCTA Method A cleanup level of 200 ppm.

Sample 005 was collected along the east wall of the excavation adjacent to the fence. The east side of the excavation extended to a chain link fence that designated the property line. Soil contamination beyond this fence line was considered inaccessible. Certified analytical reports are presented in Appendix A.

SOIL CHARACTERIZATION AND DISPOSAL

Rob's Demolition used Dames and Moore's previous analytical results for the site to secure a disposal permit prior to commencement of field activities. Approximately 15 cubic yards of soil, weighting approximately 20 tons, was removed from the excavation. The soil was loaded immediately following excavation and hauled by Rob's Demolition to Waste Management's Wenatchee Landfill for land disposal. The disposal permit and manifests are provided in Appendix B.

One soil sample was collected from the stockpile during excavation activities. This soil sample was tested using EPA Method 8015 modified for diesel. The analytical results detected 63.0 ppm in this soil sample. Waste Management allows diesel-contaminated soil that is not classified as dangerous waste to be disposed at the Wenatchee Landfill.

SUMMARY AND CONCLUSIONS

Dames & Moore has completed a focused contamination removal project at the former storage building located in the southeastern portion of the subject property for the Dvorak Living Trust located in Wenatchee, Washington. The results of the investigation is summarized as follows:

- A 12-foot long by 14-foot wide excavation was dug on March 29, 2000; the eastern wall of the excavation went out to a fence. The excavation was approximately four feet deep.

- Four confirmation samples (002 through 005) were collected after the excavation was completed. The soil samples collected from the base and sidewalls of the excavation were analyzed for diesel-range hydrocarbons using EPA Method 8015 Modified.

- Sample analysis did not detect concentrations of diesel-range TPH at or above method reporting limits in sample 002. Diesel-range TPH concentrations of 89.0, 196 and 1980 ppm were detected in samples 003, 004, and 005, respectively. Sample 005 contained diesel-range TPH greater than the Ecology MCTA Method A cleanup level of 200 ppm.

- Sample 005 was collected along the east wall of the excavation adjacent to the fence. The east side of the excavation extended to a chain link fence that designated the property

line. Soil contamination beyond this fence line was considered inaccessible. Certified analytical reports are presented in Appendix A. Legislation is pending that will change the Ecology MCTA Method A Soil Cleanup Level for diesel TPH to 2,000 ppm. Implementation of this legislation is expected to take place in December 2000.

- The majority of contaminated soil was removed by excavation activities. The diesel contamination remaining onsite is limited to a 2-foot wide area between the 1996 and March 2000 excavation limits. The total volume of residual soil contamination is estimated to be 6 cubic yards.

- One sample (001) was collected from the stockpile. This sample reportedly contained 63 ppm of diesel-range TPH.

- Approximately 15 cubic yards of contaminated soil was excavated and transported for land disposal at the Wenatchee Landfill.

RECOMMENDATIONS

Dames & Moore's professional opinion is that further remedial activities at the site are not warranted based on the following:

- The small volume of diesel-contaminated soil remaining at the conclusion of the removal activities, and

- Pending State of Washington legislation awaiting approval changes the Ecology MCTA Method A Soil Cleanup Level for diesel-range TPH from 200 ppm to 2,000 ppm.

Dames and Moore will submit a copy of this report to Ecology when the new Ecology MCTA Method A soil cleanup levels have been approved to obtain a No Further Action (NFA) designation for the property.

LIMITATIONS

The conclusions presented in this report are professional opinions based solely upon the data described in this report. They are intended exclusively for the purpose outlined herein and the site location and project indicated. This report is intended for the sole use of Dvorak. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at sole risk of said user.

Dames & Moore performs our work with care, exercising the customary thoroughness and competence of earth science, environmental and engineering consulting professionals, in general accordance with the standard for professional services at the time and location those services are rendered. It should be recognized that this study was not intended to be a definitive investigation

of contamination at the subject property and the recommendations provided are not necessarily inclusive of all the possible conditions. Given that the scope of services for this investigation was limited, and that variation between sampling points may exist, it is possible that the extent and location of subsurface conditions may vary from that stated in this report.

Opinions and recommendations presented herein apply to the site conditions existing at the time of our investigation and cannot necessarily apply to site changes of which Dames & Moore is not aware and has not had the opportunity to evaluate. Changes in the conditions of this property may occur with time due to natural processes or the works of man. No express or implied representation or warranty is included or intended in our reports except that our work was performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

We trust this report provides you with the information you require at this time. Should you have any questions regarding the content of this report or the project in general please call us at (509) 928-4413.

Very Truly Yours,

DAMES & MOORE

Andrea Simmons
Environmental Specialist

Kevin M. Freeman, P.G.
Senior Hydrogeologist

Figures

Figure 1 – Site Vicinity Map
Figure 2 - Site Plan

Appendices

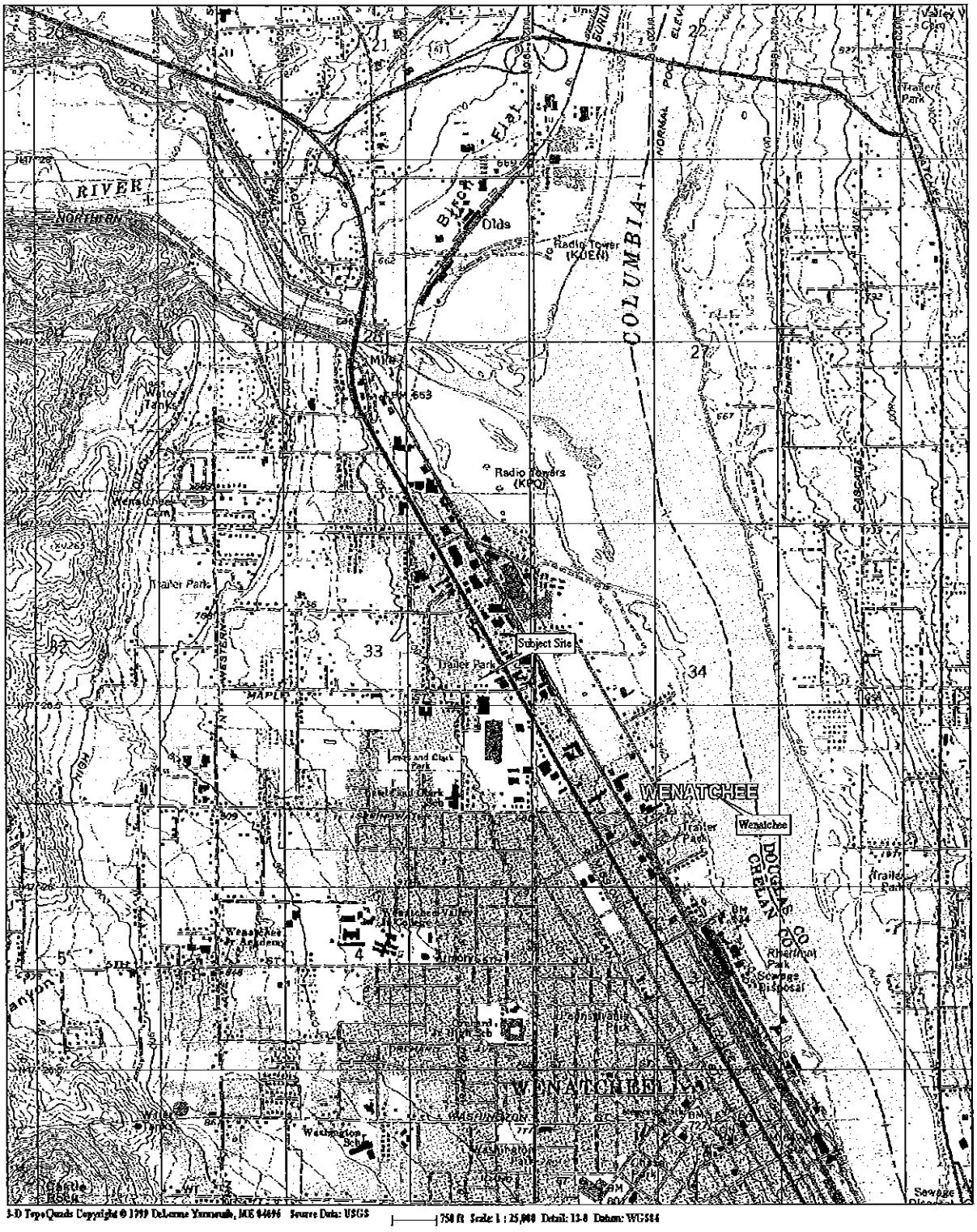
Appendix A – Certified Analytical Reports
Appendix B – Disposal Permits and Manifests

REFERENCES

U.S. Geological Survey, Wenatchee, Washington Quadrangle, 7.5 minute series topographic map, dated 1966, Photorevised 1987.

United States Geological Survey, Geologic Map of the Wenatchee 1:100,000 Quadrangle, Central Washington, 1983.

United States Department of Agriculture, Soil Conservation Service, Soil Survey of the Chelan Area, Washington.



References: DeLorme 3-D TopoQuads, Washington Region 4

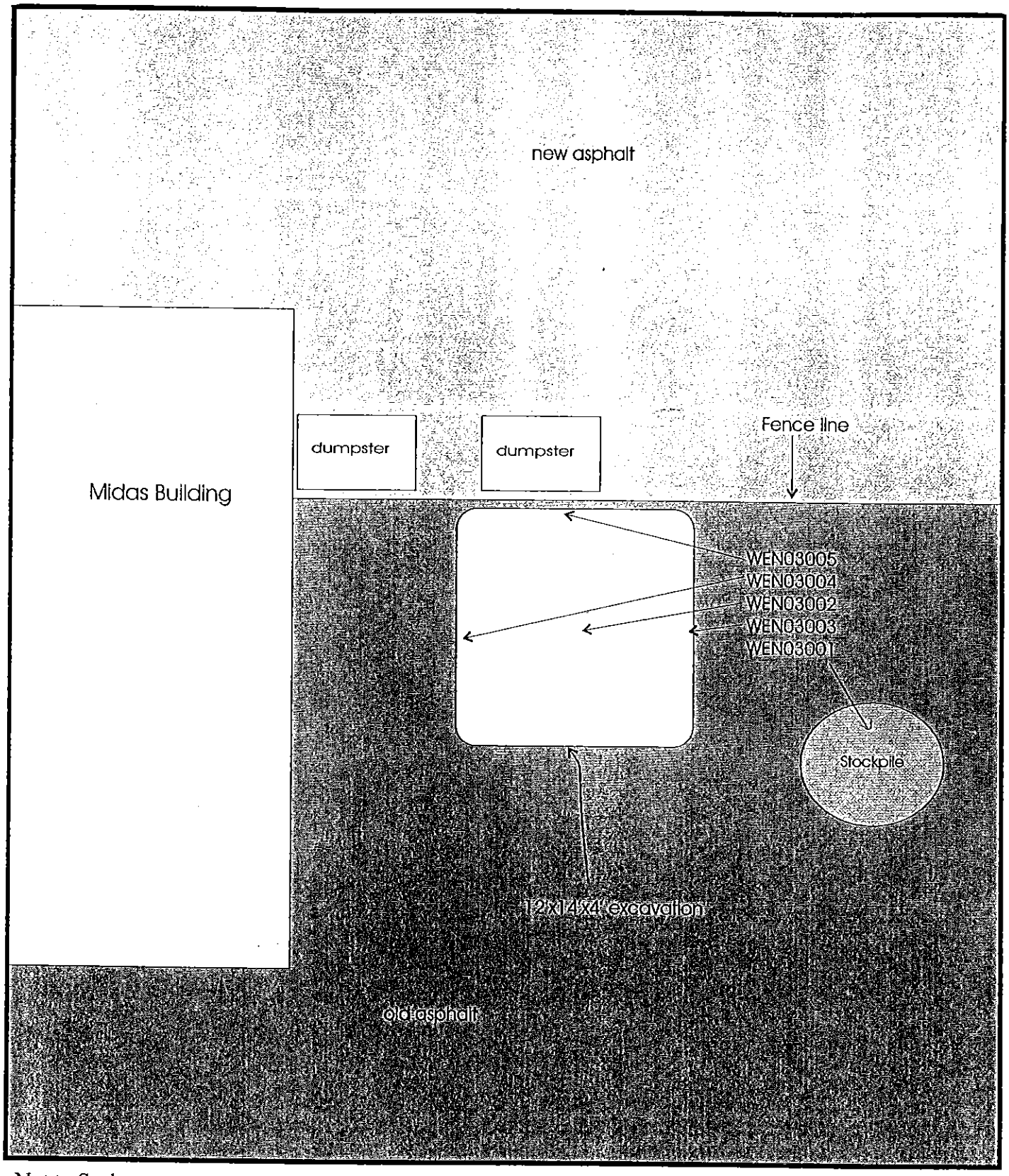
SITE VICINITY MAP

Dvorak Living Trust
Phase II Environmental Site Assessment
September, 2000 — North Wenatchee Avenue
30603-002-113 — Wenatchee, Washington

URS

N

FIGURE 1



Not to Scale

SITE PLAN

Petroleum-Contaminated Soil Removal
Dvorak Living Trust Property
North Wenatchee, Washington

September 2000
Job Number: 30603-002-113

FIGURE 2

APPENDIX A
ANALYTICAL RESULTS

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

DAMES & MOORE
KEVIN FREEMAN
1101 N. ARGONNE RD. STE. 201
SPOKANE WA 99202

PROJECT:

Certificate of Analysis

Petroleum -NWTPH-D by GC/FID (8015 modified)

Sample Name:	**WEN-03-001**
Sample Location:	STOCKPILE
Sampling Date:	3/29/00
Sampling Time:	13:00
Date Received:	3/30/00
Lab #:	27833-01
Matrix:	SOIL
Analysis Date:	3/31/00
Percent Solids:	89.1

Analyte	Result	Units	PQL
Diesel	63.0	mg/Kg	25.0
NWTPH-D Surrogate (Hexacosane) Percent Recovery	*80.8*		

Comments: Diesel range, but product does not appear to be Diesel

Sample Name:	**WEN-03-002**
Sample Location:	FLOOR
Sampling Date:	3/29/00
Sampling Time:	13:10
Date Received:	3/30/00
Lab #:	27833-02
Matrix:	SOIL
Analysis Date:	3/31/00
Percent Solids:	90.3

Analyte	Result	Units	PQL
Diesel	ND	mg/Kg	25.0
NWTPH-D Surrogate (Hexacosane) Percent Recovery	*79.0*		

Comments:

Sample Name:	**WEN-03-003**
Sample Location:	SE WALL
Sampling Date:	3/29/00
Sampling Time:	13:20
Date Received:	3/30/00
Lab #:	27833-03
Matrix:	SOIL
Analysis Date:	3/31/00
Percent Solids:	86.2

Analyte	Result	Units	PQL
Diesel	89.0	mg/Kg	25.0
NWTPH-D Surrogate (Hexacosane) Percent Recovery	*80.7*		

Comments: Diesel range, but product does not appear to be Diesel

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

DAMES & MOORE
KEVIN FREEMAN
1101 N. ARGONNE RD. STE. 201
SPOKANE WA 99202

PROJECT:

Certificate of Analysis

Petroleum -NWTPH-D by GC/FID (8015 modified)

Sample Name:	**WEN-03-004**
Sample Location:	E WALL OFF SITE
Sampling Date:	3/29/00
Sampling Time:	13:30
Date Received:	3/30/00
Lab #:	27833-04
Matrix:	SOIL
Analysis Date:	3/31/00
Percent Solids:	88.2

Analyte	Result	Units	PQL
Diesel	196	mg/Kg	25.0
NWTPH-D Surrogate (Hexacosane) Percent Recovery	*73.1*		

Comments: Diesel range, but product does not appear to be Diesel

Sample Name:	**WEN-03-005**
Sample Location:	SE WALL OFF SITE
Sampling Date:	3/29/00
Sampling Time:	13:33
Date Received:	3/30/00
Lab #:	27833-05
Matrix:	SOIL
Analysis Date:	3/31/00
Percent Solids:	85.7

Analyte	Result	Units	PQL
Diesel	1980	mg/Kg	25.0
NWTPH-D Surrogate (Hexacosane) Percent Recovery	*64.1*		

Comments: Diesel range, but product does not appear to be Diesel

Lab Supervisor: John W. Cobb

Report Date: 03-Apr-00

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In # 27833

Company Name: URS/DAMES + MOORE	Project Manager: KEVIN FREEMAN
Address: 1101 N. ARGONNE ST. 201	Project Name & #:
City: SPOKANE State: WA Zip: 99212	Purchase Order #:
Phone: (509) 928-4413	Sampler Signature: Anne Erickson
Fax: (509) 928-4415	Shipped Via/Other: HAND CARRY

Turn Around Time & Reporting

- [ ] Next Day*
- [ ] 2nd Day*
- [x] Normal

Results needed by: ____

- [ ] Phone
- [x] Mail
- [x] Fax

*Please call to verify rush charges before submitting samples

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	Preservative:	# of Containers	Sample Volume	DIESEL
	WEN-03-001	3/29 1:00	SOIL		1		✓
	WEN03-002	3/29 1:10	SOIL		1		✓
	WEN-03-003	3/29 1:20	SOIL		1		✓
	WEN-03-004	3/29 1:30	SOIL		1		✓
	WEN-03-005	3/29 1:33	SOIL		1		✓

	Printed Name	Signature	Company	Date	Time
Relinquished by	ANNE ERICKSON	Anne Erickson	URS/D+M	3/30	4:00PM
Received by	Kelly Sattler	Kelly Sattler	Anatek Labs	3-30-00	1610
Relinquished by					
Received by					
Relinquished by					
Received by					

Lab Use Only

Received Intact? YES NO
Labels & Chain Agree? YES NO
Containers Sealed? YES NO
Describe

APPENDIX B
DISPOSAL PERMITS AND MANIFESTS

184443

Waste Management of Greater Wenatchee

Regional Landfill and Transfer Station
(509) 662-4591

Customer # 0507734 Unit # ______ Date 3-30 19 2000

Name [illegible]

Address ______ City Chelan Co Zip ______

Location	Cashier	Cash	Charge	Time	Third Party
CT	115		✓	8:15	

Description	Total Yards	Gals	Unregulated Refuse LS	Unregulated Refuse Compacted RO	Unregulated Refuse Compacted Res	Unregulated Refuse Compacted Comm	Regulated Refuse LS	Regulated Refuse Compacted RO	Regulated Refuse Compacted Res	Regulated Refuse Compacted Comm	Rate	Amount
[illegible]	5										18.00	90.00
[illegible] #70												
												2.65

PCS

Washington Refuse Tax 3.34

Surcharge

Total 95.99

Driver's Signature [signature]

184438

Waste Management of Greater Wenatchee

Regional Landfill and Transfer Station
(509) 662-4591

Customer# 6507734 Unit # _____ Date 3-29 19 2000

Name Rob's Demolition

Address _____ City Chelan Co Zip _____

Location	Cashier	Cash	Charge	Time	Third Party
C	YMS		✓	3:10	

Description	Total Yards	Gals	Unregulated Refuse LS	Unregulated Refuse Compacted RO	Unregulated Refuse Compacted Res	Unregulated Refuse Compacted Comm	Regulated Refuse LS	Regulated Refuse Compacted RO	Regulated Refuse Compacted Res	Regulated Refuse Compacted Comm	Rate	Amount
	10										1800	180.00
Permit #70												PCS
											HF	5.30
												6.67
											Total	191.97

Washington Refuse Tax
Surcharge

Driver's Signature Shawn Sell